Before the FEDERAL COMMUNICATIONS COMMISSION Washington, DC 20554

In the Matter of)	
Establishing the Digital Opportunity Data)	WC Docket No. 19-195
Collection)	
Modernizing the FCC Form 477 Data)	WC Docket No. 11-10
Program)	

COMMENTS of NTCA-THE RURAL BROADBAND ASSOCIATION



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EXECUTIVE SUMMARY

NTCA strongly supports the creation of the Digital Opportunity Data Collection (hereinafter "DODC") and offers herein suggestions to ensure that the move towards improved granularity of broadband availability data accounts for accuracy as well. Both are important to policymakers as critical decisions are made with respect to addressing broadband gaps that have a detrimental effect on consumers in need of high-quality communications services.

<u>Common technical standards underpinning reporting should be used to promote accuracy in data submitted.</u>

With respect to driving accuracy on the "front-end," the even more granular data that the DODC will produce could still suffer from significant degrees of inaccuracy if there are no basic common technical standards underlying the method of reporting by providers using various technologies. Specifically, technical standards, such as assumptions based on oversubscription, the reach of various spectrum bands, the capability of DSL at specific loop lengths, the capacity of individual satellites, and other measures of the actual ability of certain technologies to serve every consumer that wants to purchase service at an asserted speed should underpin the reporting of service availability. To take broadband maps from the theoretical to the achievable, a claim that an area is "served" on a map should not be made unless the provider can assume adoption at each individual serviceable location in that area and can, based on underlying engineering assumptions tied to the specific technology used, truly deliver on that claim as to both speed and latency.

A challenge process, separate from the use of crowdsourced data, should refine baseline data prior to its use in policy decisions.

While certain "upfront" steps must be taken to ensure the accuracy and consistency of data reported in the first instance by providers, a robust challenge validation process is essential

as a "back-end" refinement of such data to ensure its accuracy prior to its use in making any policy or funding decisions. Such a challenge process is important to prevent a critical structural weakness of existing coverage data – the "self-reported" nature of the data in question – from creeping into the DODC. A challenge process would serve as an additional refinement beyond any sanity checks that the Universal Service Administrative Company ("USAC") likely can run on its own. While such a USAC verification process will be useful, a challenge process is required to ensure that critical policy and funding decisions are made based upon the best possible information.

Moreover, a challenge validation process as proposed herein would be conducted by those closest to "facts on the ground" and would therefore yield the best possible information. Among others, local and state policymakers and other providers in or near a given area often have a good awareness of where service actually does or does not exist despite self-reported data. As an additional benefit, these checks on self-reported data would also ensure that the most current information is being used to guide decision-making in terms of policy or funding.

As a complement to the challenge process described above, crowdsourced data should be used to identify trends that may indicate inaccuracies in need of correction. Broadband service as experienced by the consumer can often be influenced by modems, routers, and other consumer-installed customer premises equipment, and a reliance on crowdsourced data could place USAC and providers in the position of chasing down whether identified gaps truly exist or are simply the result of consumer performed testing using an outdated or improperly configured router. However, using crowdsourced data to identify broadband gaps that have missed other checks would allow for USAC to investigate and ultimately request that the provider correct any

inaccurate data and should serve as an ongoing process to help identify and evaluate trends in coverage reports.

Latency and the availability of voice service are important metrics that should be reflected on any DODC produced maps.

Latency is a significant consideration when taking into account the breadth of what consumers and businesses can do – and will do in the future – with broadband access. For consumers, latency can affect their ultimate experience, whether it be with the ability to watch a live sporting event via a streaming application or the ability to use over-the-top or interactive applications. Voice service availability is a critical data point as well, as the ability to reach emergency services is perhaps the most important function of any communications network. Because funding decisions, whether state or federal, may and indeed should turn on whether a particular area has access to both reliable voice and broadband services, the DODC should incorporate that important data point.

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COMMENTS of NTCA-THE RURAL BROADBAND ASSOCIATION

I. INTRODUCTION

NTCA—The Rural Broadband Association ("NTCA")¹ hereby submits these comments in response to the Second Further Notice of Proposed Rulemaking ("*Notice*") issued in the above-captioned dockets.² The *Notice* seeks comment on ways to ensure that the newly established Digital Opportunity Data Collection (hereinafter "DODC") can "evolve to align with changes to technology, markets, and policy needs." NTCA offers herein several suggestions for ensuring that the DODC will achieve its objectives, both in the first instance as service availability data are measured and compiled by providers and also in terms of "backend" validation and refinement of the data prior to use in funding or policy decisions.

NTCA is an industry association composed of nearly 850 rural local exchange carriers ("RLECs"). While these entities were traditional rate-of-return-regulated telecommunications companies and "rural telephone companies" as defined in the Communications Act of 1934, as amended, all of NTCA's members today provide a mix of advanced telecommunications and broadband services, and many also provide video or wireless services to the rural communities they serve.

Establishing the Digital Opportunity Data Collection, WC Docket No. 19-195, Modernizing the FCC Form 477 Data Program, WC Docket No. 11-10, Report and Order and Second Further Notice of Proposed Rulemaking, FCC 19-79 (rel. Aug. 6, 2019) ("Report and Order" or "Notice").

Notice, \P 76.

II. TO ENSURE CONSISTENCY IN REPORTING AND THEREBY OBTAIN THE MOST ACCURATE DATA POSSIBLE, THE COMMISSION SHOULD FIRST PRESCRIBE COMMON TECHNICAL STANDARDS FOR THE REPORTING OF BROADBAND AVAILABILITY.

NTCA strongly supports the steps recently taken by the Commission to create the DODC. This data collection represents a watershed step in the movement away from census block-based maps toward a more granular picture of which consumers are already served or lack access to high-quality services. But as the Commission recognizes, granularity itself is not enough – inaccuracy can and will persist within even more granular data if there are no basic standards for reporting or validation procedures once self-reported data are received.

The *Notice* therefore rightly seeks comment on rules for reporting fixed broadband service availability in order to "promote consistently reliable results." Consistency is indeed key in promoting accuracy, and NTCA supports the adoption of technical standards that will provide an accurate representation of the true capabilities of networks with respect to providing service to consumers throughout a geographic area. More specifically, as the industry moves to a more granular reporting structure, a provider's coverage claim should represent the ability in fact to serve every customer in that more granular area at a specified speed and in accordance with other performance metrics; to ensure this is the case, the Commission must ensure the coverage estimates are based on realistic engineering assumptions tied to the specific technology used to make service available. Paired with the "back-end" validation procedures discussed in Section III, *infra*, a specific upfront standardization process represents the essential foundation to ascertain what consumers can – and cannot – access in terms of broadband and other critical services.

⁴ *Id.*, ¶¶ 78-84.

A lack of clear norms or direction with respect to how availability is to be measured and reported has always been a significant weakness in the Form 477 process. That mistake cannot be repeated here as the Commission moves to implement the DODC; it would be a lost opportunity to say the least if, at a time when such important steps are being taken to obtain more granular data, the Commission decides then not to promote consistency and greater accuracy within that more granular reporting.

As currently constituted, Form 477 effectively leaves it to each provider to determine for itself how "accurate" its mapping claims should be. For example, if a provider merely advertises fixed wireless or DSL technologies to offer 25 Mbps across a wide swath of rural areas – even if it has neither tested nor vetted the actual reach and limits of using those technologies to reach specific locations or its capability to serve all of the locations in that area – that alone is technically sufficient to justify a report of availability on today's Form 477. Ultimately, all that matters for purposes of current Form 477 reporting is that the provider's marketing department believes that service could be provisioned to a customer within a given area and that the provider's systems then reflect that purported capability. The adoption of clearly articulated common technical standards applicable to specific technologies used to provide service can prevent this new collection from repeating past mistakes and is compulsory to promote much greater consistency and accuracy within the collective data received by the Commission.

Specifically, the Commission should require all reporting parties to incorporate certain standardized technical assumptions with respect to the technologies used to make service available to consumers. Examples of such standards include:

- For wireline providers, broadband availability reports should be based on specific engineering standards tied to the technology utilized to deliver service (fiber, cable, DSL). For example, reporting for providers using DSL technology should be based on standard assumptions with respect to loop length and the specific DSL technology utilized, as well as an estimation of how those factors influence the ability to serve every customer within a coverage polygon at the speed claimed. Reporting should also incorporate oversubscription assumptions so that the effects of any shared capacity of feeder plant and middle mile capability can be taken into account.
- For fixed wireless services, reporting on broadband availability should be based on detailed engineering and propagation standards and capacity constraints specifically tied to the spectrum band utilized to deliver service. How those factors influence the ability to serve every customer within a coverage polygon at the speed claimed should be part of the assumptions as well. Reporting should also be based on oversubscription assumptions so that the effects of any shared capacity within the spectrum and backhaul capacity can be taken into account.
- For satellite providers, reporting on broadband availability should be specifically tied to standard capacity assumptions and how this factor influences the ability to serve every customer within a coverage polygon at the speed claimed. Reporting should also be based on oversubscription assumptions so that the effects of any shared capacity within the spectrum and backhaul capacity can be taken into account.

Of perhaps the greatest importance, any serious effort to eliminate broadband gaps cannot enable a provider to claim the ability to serve *everyone* in a given area at a particular level of speed and latency performance, with certain usage allowances, simply because that provider believes it can serve *any one consumer* at those parameters. Put another way, to justify reporting an area as "served" on a map, *providers should be required to assume adoption by all customers* – *each and every serviceable location* – in that area. In the end, broadband maps must give the public and policymakers data based on realistic coverage claims. Thus, assumptions based on oversubscription, the reach of various spectrum bands, the capability of DSL at specific loop lengths, the capacity of individual satellites, and other measures of the actual capability of certain technologies to serve every consumer that wants to purchase service

at an asserted speed are *all* critical to this kind of realistic picture. As just one example, a fixed wireless provider using a particular spectrum band should not be able to claim coverage for an individual coverage polygon at 100/20 Mbps speed with latency sufficient for real-time applications absent actual access to enough spectrum that has the necessary propagation characteristics in place to actually serve *every* customer within that polygon. The same is true of a DSL provider with certain lengths of copper still in its distribution plant.

To be clear, the technical assumptions discussed above will not be data points that providers must report. Rather, they will be upfront assumptions defined by the Commission itself that should underpin any claims of coverage then reported by providers, thereby minimizing the burdens on providers while still allowing for an "apples-to-apples" look at availability across providers in a manner that is utterly lacking today. In other words, adoption of detailed upfront technical standards will take broadband maps from the theoretical to the achievable, and as noted above, enable the public and policymakers to have a more consistent and reliable understanding of where broadband exists and where it is lacking.

III. A ROBUST CHALLENGE VALIDATION PROCESS IS A CRITICAL PART OF REFINING BASELINE MAPPING DATA PRIOR TO ITS USE IN ANY POLICY OR FUNDING DECISIONS.

Moving forward, while certain "upfront" steps must be taken to ensure the accuracy and consistency of data reported in the first instance by providers as recommended in the preceding section, a "back-end" refinement – via a robust challenge validation process – is essential as

In other words, the Commission should set the initial standards, and providers should then be required to apply them in measuring and reporting their coverage. The only reason a provider might need to report its own assumptions with respect to how it derived its coverage is if that provider wishes to depart from the prescribed standards – and it should then be required to flag that and explain the justification for such a departure.

well to ensure that the data is as accurate and current as possible prior to making any policy or funding decisions. Indeed, without *both* upfront standards *and* validation procedures on the "back-end," questions will persist as to whether even the most granular data is accurate and current enough to inspire public confidence or to be useful in making important policy and funding decisions.

A. A robust challenge process is critical to preventing inaccurate representations of broadband availability that could strand individual consumers without service.

In moving away from measurement of broadband availability by census block, the Commission recognized that such data produced "gaps," that is, areas and consumers residing in them to which the Commission cannot direct funding because it is unable to see that they remain unserved. The increased granularity produced by the DODC – as well as that produced by a move over time toward an even more granular "location fabric" – should provide the Commission with an important tool for filling such broadband "gaps." That said, as NTCA has previously stated, granularity and accuracy are not the same thing, and it would be a significant lost opportunity if the Commission did not take steps to sharpen its new tool before it is used to drive funding and other policy decisions.

⁶ Report and Order, \P 1.

It should be noted here that the eventual move toward a "location fabric" will be complicated in certain areas, such as the state of Alaska. The recently completed location fabric pilot relied heavily on tax assessor and parcel attribute data that is not available for a significant amount of serviceable locations in Alaska. Thus, just as the Commission has done so with the USF funding directed to that state, it will have to find a tailored approach to an attempt to derive more granular information for such areas.

Letter from Michael R. Romano, Senior Vice President, NTCA, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90, 11-10 (fil. Apr. 30, 2019) (NTCA Apr. 30, 2019 *Ex Parte* Letter).

Moving forward, it is important that the Commission not let the structural weakness of coverage data, even if more granular, creep into the DODC when it is utilized to make funding decisions. These weaknesses arise in large part – and will persist even under an improved, more granular data collection methodology – due to the "self-reported" nature of the data in question. While the Report and Order rightly directs USAC to adopt a data verification process of its own, decisions made based on the DODC-produced map require more than the "sanity checks" that USAC likely can run on its own. 10 Thus, even as the USAC verification process will be useful, additional refinements are required to ensure that critical policy and funding decisions are made based upon the best possible information.

In addition, a challenge validation process as described further herein conducted by those closest to "facts on the ground" is simply the best way to yield the most useful information. Among others, local and state policymakers and other providers in or near a given area often have a good awareness of where service actually does or does not exist despite selfreported data, and that kind of localized input should be a critical component of any determination of how to use the maps for purposes of funding or other policy decisions. In short, a challenge process as proposed herein is the best and most efficient way for the Commission to ensure that the DODC ultimately produces the most accurate depiction of broadband availability when making important decisions.

Report and Order, \P 28-29.

Id., ¶ 29. For example, the HUBB check that USAC runs only validates if an eligible census block is reported; it does not validate whether the location reported is itself accurate or anything with respect to the service offered there.

Beyond the importance of having "outside checks" on self-reported data, the use of a challenge validation process will be extremely useful in ensuring that the most *current* information is being used to guide decision-making. Once availability information is reported, it already currently takes months to prepare for posting publicly on the Commission's website – and this could take even longer depending on the scope of the USAC verification. Thus, even if the maps will be much more granular – and even if other concerns related to upfront "standardization" 11 as discussed above are addressed – no map will be able to keep "real-time" track of deployments in progress, construction completed, abandonment of service, or a provider "reaching capacity" and no longer having the ability to add new subscribers at advertised speeds in certain areas. This means that every map, no matter how granular or accurate at the time published, will inevitably be outdated for some areas and in some respects in the wake of publication. In short, treating the baseline map as "gospel" yet again, without any prospect for further local input and updating in between publication cycles before use in policy decisions, would repeat the mistakes of the past that the Commission is attempting to move beyond, where coverage claims could be set in stone to the detriment of consumers.

A "back-end" challenge validation process should therefore be considered a prerequisite

– paired with upfront standardization – to ensuring the accuracy of maps in the context of any
significant policy or funding decisions to be made in reliance upon the underlying data.

Although some may view a challenge process as unnecessarily burdensome, this is a red herring
based only upon the very bad experience of proceeding from very bad data in the past.

Precisely because the maps should be more granular and more accurate going forward through

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Section II, *supra*.

the Commission's DODC efforts and the prescription of upfront technical standards as described above, the instances of disputed coverage should be fewer and further between and much smaller in scope than in the past. Thus, the need for challenge processes should arise in many fewer instances and require review of much smaller geographic areas than before.

Nonetheless, even if the number of disputes and chances for error may narrow because of the important steps already being taken by the Commission, challenge processes remain essential to catch any flaws that persist. Errors in filing, mistaken (or purposeful) misapplication of technical standards to coverage claims, or sheer neglect or lack of process within a filer's operation could all still lead to inaccuracies in the self-reported data. The customers trapped in such undetected "broadband deserts" deserve better than blind and absolute reliance on maps that, while more granular, may still produce the "gaps" that the Commission knows exist¹² and has made a commitment to closing. The use of challenge processes is therefore mission-critical to identify overstated claims of coverage in particular and to ensure that customers are not left stranded without broadband (or much-needed universal service support) as a result.

A challenge process, especially in the context of narrower geographies that are likely to be subject to disputes over coverage, can be administered relatively easily and quickly. In particular, as decisions are made either to award or withdraw funding from a given area, parties wishing to challenge the accuracy of coverage maps submitted by broadband providers pursuant

Report and Order, \P 1.

Connect America Fund Phase II Auction (Auction 903) Closes; Winning Bidders Announced; FCC Form 683 Due October 15, 2018, AU Docket No. 17-182, WC Docket No. 10-90, DA 18-887(rel. Aug. 28, 2019); Rural Digital Opportunity Fund, WC Docket No. 19-126, Connect America Fund, WC Docket No. 10-90, Notice of Proposed Rulemaking, FCC 19-77 (rel. Aug. 2, 2019) ("NPRM").

to the DODC should submit information such as consumer surveys, "secret shopper" tests, or other preliminary indicators that the challenged provider does *not* in fact operate throughout the area that it claims at the levels of performance it claims. The "challenged" provider should then have 60 days to respond to such a challenge filing, providing technical and operational information that provides clear and convincing evidence of actual service availability (*e.g.*, billing records, engineering documentation showing the presence and capabilities of network facilities sufficient to provide service at the speed claimed consistent with the Commission's prescribed technical standards, etc.).

To be clear, the challenge process proposed here should take place specifically and only in the context of any universal service funding vehicle to confirm service availability prior to the distribution or withholding of funding. Otherwise, the regular course of data reporting and periodic map development can and should occur pursuant to a structure composed of prescribed technical standards, USAC validation, and (as discussed below) input from crowdsourcing. Because a challenge process would take place only under such circumstances – as a "final check" at such time as the Commission is proposing to use the maps for funding or other policy decisions – the burden it will impose should be minimal, correcting only for those errors that persist despite more granular reporting, the application of upfront technical standards, the introduction of crowdsourcing data as discussed below, and any independent verification process conducted by USAC.

B. Crowdsourcing can provide useful input in developing more accurate maps, but it must be deployed and implemented carefully.

The Notice seeks comment on how the Commission might make use of "crowdsourced"

data to be collected by USAC pursuant to the Report and Order. 14 Rather than treating such

reports as "one-off" consumer complaints with each necessitating investigation by USAC and/or

Commission staff and detailed responses from providers, NTCA proposes that the Commission

use this data to identify trends that may indicate inaccuracies in need of correction. In short,

crowdsourced data should be treated as informative, but not dispositive, in assessing the validity

of claimed coverage – and as an important part of a package that includes more granular reports,

technical standard specification, and a challenge process as the maps are used for funding or

other policy decisions.

Indeed, the Commission's use of crowdsourced data – while a valuable tool – must be

informed by its limitations. Broadband service as experienced by the consumer can be often be

influenced by modems, routers, and other consumer-installed customer premises equipment.

Consumer-run performance tests are likely to be influenced by the very same factors, and a

reliance on crowdsourced data could place USAC and providers in the position of chasing down

whether identified gaps truly exist or are simply the result of consumer testing using a decade

old computer and an improperly configured router that a consumer recently purchased on EBay.

Moreover, requiring providers to respond to individual speed tests or other complaints about

speed, latency, or /quality of service not meeting their expectations would be highly

burdensome for providers and the Commission itself, could overwhelm USAC quickly, and

would likely provide little useful data in terms of mapping adjustments.

Notice

Notice, ¶¶ 88-98.

Comments of NTCA-The Rural Broadband Association WC Docket Nos. 19-195 & 11-10

September 23, 2019

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That said, the crowdsourced data can still be highly valuable to the Commission in providing "heat maps" where a confluence of reports can help to identify broadband gaps that have missed other checks. Specifically, such data could be used to detect trends with respect to coverage claims. Thus, rather than acting on each individual crowdsourced complaint, upon the detection of trends in terms of complaints directed to an individual provider's coverage claims, USAC could initiate a process to investigate and ultimately request that the provider correct any inaccurate data. In short, as a complement to the challenge process described above that would be conducted specifically as part of and prior to any significant policy decisions, the crowdsourced data and the corrections it will spur should serve as an ongoing process to help identify and evaluate trends in coverage reports.

IV. LATENCY OF AVAILABLE BROADBAND SERVICES, AS WELL AS THE AVAILABILITY OF VOICE SERVICE, ARE IMPORTANT DATA POINTS FOR POLICYMAKERS AND SHOULD BE PART OF THE DODC.

The *Notice* seeks comment on whether broadband providers should include latency as part of reporting on service availability. ¹⁵ NTCA proposes the inclusion of not only latency, but the offering of voice service on a granular level, as important metrics that should be reflected on any DODC-produced maps.

Latency is a significant consideration when taking into account the breadth of what consumers and businesses can do – and will do in the future – with broadband access. For consumers, latency can affect their ultimate experience, whether it be with the ability to watch a live sporting event via a streaming application, the ability to use over-the-top applications such

¹⁵ *Id.*, ¶ 81.

as VoIP, or the ability to use other interactive applications. ¹⁶ Moreover, because interactive real-time applications require lower levels of latency, telemedicine and distance learning applications are services that are highly dependent on lower latency broadband connections. The Internet of Things is a factor here as well, as many of the new services this will enable will also be dependent on lower levels of latency to function properly or at all. Thus, if the Commission is truly seeking an indicator of the quality of broadband service available to consumers throughout the nation – and if the agency (and perhaps other state and federal agencies will utilize DODC-produced maps to direct funding to fill "gaps") – latency must be a component of this data collection.

Somewhat relatedly, the Commission should take stock of providers' ability to offer voice service. Nothing could be more fundamentally important in terms of the Commission's communications policies than ensuring that consumers have the ability to reach emergency services, and thus the availability of voice service should be seen as a critical part of the DODC. Funding decisions, whether state or federal, may (and indeed should considering the public safety implications) turn on whether a particular area has access to both reliable voice and broadband services, and thus the DODC should incorporate that important data point.

Indeed, each of these data points (latency and the availability of voice service) are as critical to policymakers and consumers in unserved and underserved areas as broadband speeds. Simply put, they are important indicators of the quality of communications networks that consumers and businesses in a given area can expect to find. This quality of expected service is the key here – these maps will have far-reaching implications for federal and state policy

Eighth Measuring Broadband America Fixed Broadband Report, A Report on Consumer Fixed Broadband Performance in the United States, (rel. Dec. 14, 2018), p. 8.

beyond even just the Commission's purview. Funding and other policy decisions by other federal agencies and state grant and loan programs will almost certainly look to the "best in class" maps that should emerge from this data collection. Businesses (and even residential consumers) may use these maps as well in making decisions where to plant their roots.

Ultimately, the DODC-produced map is going to be the tool that policymakers use when deciding where to invest limited resources, and the ability to decide if service with higher levels of latency or providers that cannot/do not offer voice service are truly good enough or if policymakers in the future might want to invest in better service will not emerge without this data in hand.

V. CONCLUSION

For all of the reasons listed above the Commission should take four specific steps in finalizing the DODC and promoting better understanding of where critical communications services are and are not available:

- 1. Ensure that a provider's coverage claim will be based on common engineering assumptions specific to the technology used and reflect the ability to serve every customer in the area claimed at a specified speed and consistent with other performance metrics.
- 2. Pursue a robust challenge process before using DODC-generated data as a "final sanity check" before making significant policy or funding decisions, in order to prevent inaccurate our outdated representations of broadband availability from trapping consumers in a broadband desert or incorrectly directing resources to well-served areas.
- 3. Use crowdsourced data to identify trends that may indicate inaccuracies in need of correction but not as a substitute for a challenge process.
- 4. Incorporate latency and voice service availability as metrics for reporting within the DODC construct.



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